

UDK. 635.21:64

Assessment of Suitability for Producing Chips of Different Varieties of Potatoes Tubers

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Article Info**Volume 82****Page Number: 15133 - 15136****Publication Issue:****January-February 2020****Abstract:**

In addition to the main areas of potato selection in Uzbekistan, the quality and processing capability of the past few years should serve as one of the new requirements.

Article History**Article Received:** 18 May 2019**Revised:** 14 July 2019**Accepted:** 22 December 2019**Publication:** 28 February 2020**Keywords:** Potato, tubers, chips, sorts, selection examples, recycling.

I. INTRODUCTION

Recycling of potato first started in the USA, but developed in Russia in the 1980s (3). In Uzbekistan, the industry is relatively new. There is a wide range of processed potato products. However, the chip occupies one of the main places (62,116).

Reforms in the agriculture of the Republic are one of the important issues of ensuring food security and increasing the export potential of the country by satisfying the population's demand for environmentally friendly products.

Expanding the cultivation of potatoes, introducing new forms of farming, using high-yield varieties and high-quality seeds, as well as introducing technical achievements and advanced experience in the storage and processing of potatoes are important in addressing this issue. One of the main and most cost-effective ways to recycling potatoes is to make chips from potatoes. For this purpose, selection of appropriate varieties is one of the important issues of potato growing.

II. THE PURPOSE OF THE RESEARCH

Potato processing chip products contain proteins, carbohydrates, lipids, vitamins and more, which are essential for normal human activities. These food products are distinguished for their high energy value, light digestion and good digestion, taste, mass consumption and many other products.

Chips have their share in the human diet of the world. Therefore, there is a strong demand for potato chips in our country and around the world.

According to the data, the output and quality of the chip is determined by the amount of potato chips, the chemical content of the product, including dry matter, starch and sugar. Such composition depends on the variety, soil-climatic features of the crop, and the technology used.

The conditions of Uzbekistan are unique and potato is grown in two terms: spring planting time and summer planting time. During the spring period, the plant growth period and the formation of buds coincide with the high temperature. In the summer

term, on the contrary. This, in turn, affects the composition of the tubes and, in turn, the output and quality of processed products, including chips.

The above-mentioned data serve as the basis for our experience in assessing the suitability of chips for the production of chips of new potato varieties planted in the country and the selection process, the timing of sowing and the impact of the elements of the cultivation technology on the yield and quality of chips.

III. MATERIALS AND METHODS

The research was conducted in the departments of "Plant breeding and fodder" and "Technology of storage, processing of livestock and plant products" of Samarkand Institute of Veterinary Medicine. The subject of the study was the summer tubers of Feruza, Farovon, Picasso, Ramona and Ambition varieties of potatoes grown in the summer term of 2018-2019. To make the chips, thoroughly washed the potatoes and cut the chips. The starch (polyarimitrichesky analysis) was determined by polyametric analysis (of Eversu). No flavor enhancing for tasty ingredients were used in making chips.

Potato chips are cut into thin slices and fried in oil. The quality of the chips was determined using a 100-point scale (100) using organoleptic methods recommended by M.A. Nikolayeva (2000) with 10

participants. The quality of the chips was evaluated on a 20-point system (Nevalyonnaya A.A, Dolganova N.V [95]) The results were processed using Microsoft Office Excel 2010 and Statistica 13.3.

IV. RESULTS OF THE STUDY

Our research showed that the highest chip output (38.0-43.5% or 380-435gr / kg) was obtained from the Feruza, Ambition and Picasso varieties. The lowest was recorded in Farovon and Ramona. (33.0-35.5% or 330-355 gr / kg). (Table 1).

1-table

Potato Chips Suitability Assessment Results for Potato Varieties and Samples

Potato chips from summer varieties of various potatoes tubers				
№	Variety name	Number of chips kg	amount of chips	
			gr	%
1	Feruza	1	380	38%
2	Farovon	1	330	33%
3	Picasso	1	435	43,5%
4	Ramona	1	355	35,5%
5	Ambition	1	385	38,5%



Consumption value of finished chips has been assessed by organoleptic and tasting methods. The results show that the highest results in the appearance, color, taste, odor, texture and crispness of the chips made were derived from chips made

from potatoes of Farovon and Ambition varieties. The lowest was observed in Picasso in the Netherlands. (Table 2)

Table 2
Qualitative characteristics of chips made of various potato varieties grown in summer

№	Variety name	Appearance	Colour	Taste and smell	Texture	Degree of crunch
1	Feruza	20	19	20	17	17
2	Farovon	20	20	19	20	20
3	Picasso	14	14	15	12	12
4	Ramona	19	16	16	16	17
5	Ambition	20	19	20	20	20

It should be noted that the products of the potato chips of Feruza variety received a lower rating on texture and aging, despite some appreciation. These results indicate that it is necessary to select the highest grades on all indicators indicating suitability for chips production. These results are related to the chemical composition, for the production of good and high-quality chips, it is determined by the low sugar content in these varieties and the presence of a moderate amount of starch.

V. CONCLUSION

For the production of chips product from potato, the crop varieties must be selected correctly. In addition, the timing of crop cultivation in Uzbekistan and the elements of technology used should be taken into account. The amount and quality of chip output from the tubes depends on the varietal characteristics of the potatoes. The chip output in Picasso and Ambitious varieties of potatoes is high, with 38.5% to 43.5%. The highest quality in the production of chips made of summer chips was distinguished by

Farwan and Ambitious varieties, which are recommended for processing in this direction.

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